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ANOTHER EUROPEAN LEAFHOPPER IN NORTH AMERICA.

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In the early part of September, to be precise, on the second day of the month, when Dr. E. D. Ball called at the American Museum of Natural History, he was very much elated over having collected on a few Tamarisk plants in the Museum's backyard, so to speak, a number of *Eutettix osborni*, which species he had described some years ago from specimens taken in Texas. He informed me that thus far it was only known to occur in Texas and California, also on *Tamarix*. Within a few days after that, I had also secured a nice series for my own collection, from the same trees.

In trying to get the *Tamarix* sp. determined, I found that this food-plant was a European introduction (it proved to be *Tamarix gallica*). It then occurred to me that this leafhopper might also be imported from Europe, probably with the food-plant. In this belief I was supported by Dr. Bequaert, who suggested that we might communicate on this matter with some European workers in this group, with whom we were now in touch and receiving exchanges. Accordingly, a few specimens were sent to Mr. E. de Bergevin, of Algiers, with a request to have them compared with European leafhoppers.

About that time I received a box in exchange from Mr. V. Lallemand, of Brussels, Belgium, containing the same little leafhopper but with quite a different name, not only specifically, but also generically, namely *Athysanus stactogalus* Fieb. In due time also I received a reply from Mr. E. de Bergevin, to whom I had sent specimens of our supposed *Eutettix osborni*. He also found

that this was the European *Athysanus stactogalus* and while I was gathering these notes I received another fine pair from this entomologist. I thus possess specimens labelled and identified by two eminent specialists of Europe, and my American specimens determined by both of them, and, as I am unable to find any difference from their views, we all agree that our *Eutettix osborni* Ball is a synonym of *Athysanus stactogalus* Fieber.

In going over all the literature available I found that this insect had quite an interesting history taxonomically, which at first seems a little puzzling, owing to the specific name *stactogalus* occurring with two different authors referring to the same insect, Amyot and Fieber sharing the honor of authority. Not being able to find an explanation for this I thought I would follow the thing down through the literature and this is the result:

Amyot in *Annales de la Société Entomologique de France* (2d Ser., Vol. V, p. 217), 1847, describes very briefly this insect as *Stactogala*, ignoring the Linnæan system of binominal nomenclature, and consequently, in accordance with adopted zoological rules, his singular description becomes a *nomen nudum*. His material came from Paris, Mont de Marsan, giving no number of specimens nor kind of food-plant.

Walker, in "List of Homoptera in British Museum" (Part III, p. 894), 1851, refers to Amyot's *Stactogala* as *Jassus* with an interrogation, apparently considering *Stactogala* synonymous with *Jassus*, without making reference to any species whatever.

Fieber in "Verhandlungen der K. K. Zoologisch-Botanischen Gesellschaft in Wien" (p. 505, Fig. 19), 1866, realized the predicament and erected the genus *Opsius* on Amyot's *Stactogala*, which thus became the type and only species of this genus. Since Amyot's *Stactogala* is *nomen nudum* it cannot bear his authority, even though we are obliged to consult his description, as Fieber only paid attention to it as a genus and referred to *Stactogala* Amyot for the species; it must then be considered as a Fieberian species, but this was not done until a long time after.

Kirschbaum in "Die Cicadinen der Gegend von Wiesbaden und Frankfurt a.M. (p. 90, No. 17), 1868, describes the very same insect as *Jassus* (*Thamnotettix*) *tamaricis*, although he was well aware of Amyot's description, for he remarks in a foot-note that

"It seems very much like Amyot's *Stactogala*, but the latter's description was too short to be able with surety to identify the species in question as such, and the size given, 5-6 mm., speaks positively against it." He must have either overlooked Fieber's paper of a few years previous, or perhaps not recognized his description, but whatever it was, he made no mention of it at all.

Fieber in his "Katalog der europaeischen Cicadinen" (p. 11), 1872, seems to consider his new genus synonymous with *Athysanus* for he places it right in this genus, in fact, it heads the list, which I do not think of any particular significance. Here he also places Kirschbaum's *tamaricis* as a synonym of *stactogalus*. From this time on it has been known in the European literature as *Athysanus stactogalus* Am. He mentions as synonyms of the genus:—*Jassus*, *Thamnotettix*, *Opsius*, and *Limotettix*.

Mayr in his "Tabellen zum Bestimmen der Familien und Gattungen der Cicadinen" (p. 33, No. 69), 1884, follows Fieber in placing *Athysanus stactogalus* first on the list, with genus *Opsius* a synonym of genus *Athysanus* and *Jassus* in part; he fails to mention or dispose of genus *Limotettix*, and this is rather disappointing as our *stactogalus* is very closely related to that group.

Ferrari in "Bolletino delle Societa Entomologica Italiana" (Vol. 17, p. 289, No. 76), 1885, adds further to its range of distribution by citing a few records of its occurrence in Italy, following Fieber and Mayr in the use of nomenclature.

Melichar in "Cicadinen von Mittel Europa" (p. 261), 1896, redescribes it in the German language as did Kirschbaum, and still maintains Amyot as author.

Ball in Proceedings of the Davenport Academy of Sciences (Vol. XII, p. 39, July, 1907) describes it as *Eutettix osborni* from three examples, one female and two males, from Galveston, Texas, collected in May by Professor Snow. Evidently no notice of food-plant was taken in this case as none is mentioned.

Oshanin in his "Katalog der palaearktischen Homopteren" (p. 108, No. 4160), 1912, lists it as *Athysanus stactogalus* Fieb.; this is the first paper in which I find that Fieber has been credited with authority for the name. He also adds North-Africa and Turkey to its range of distribution and cites *tamaricis* Kirsch-

baum 1868, as a synonym. This is probably the best determination we have for the species so far, except that *Athysanus* is considered a subgenus of *Euscelis*.

Van Duzee in Transactions of the San Diego Society of Natural History (Vol. II, No. 1, November, 1914) reports *Eutettix osborni* as occurring in great numbers on *Tamarix* at La Jolla and a few from Alpine, on the same plant, both localities San Diego County, California.

Gibson and Cogan in the Ohio Journal of Science (Vol. XVI, No. 2, December, 1915), extend its distribution in this country by reporting it from Missouri; they incidentally hint at a new food-plant, "White Aster, used in ornamental planting." It would be exceedingly interesting to know if the insects lived and thrived on this plant or if they were only casual visitors from a nearby *Tamarix*, as both plants are extensively used in ornamental planting.

Van Duzee in "Check List of the Hemiptera of America, North of Mexico" (New York Ent. Soc., 1916), and same author in "Catalogue of the Hemiptera of America, North of Mexico" (University of California Technical Bulletins, Entomology, Vol. II, November 30, 1917), lists it as Number 2174, *Eutettix osborni* Ball.

Thus we have a chronological review of its taxonomy or as much of the literature as I have been able to consult. As it will be seen by the above, it has been shifted to and fro, and described in various genera, and in one case a genus was erected for it which was subsequently withdrawn, and the species put in an old and well-known genus, but why has it been subject to restlessness in our literature?

This question can only be answered by saying that perhaps our genera in this group are not so well understood as to decide which genus it should be placed in, and where it does not belong; or as Lathrop defines the genus *Euscelis*, "A heterogeneous aggregation, rendering difficult a concise description." It will thus more readily receive species which do not fit in other, nearby genera. This is sure to make a very interesting study, not only for this species, but also for some of the closely allied species. If placed in genus *Athysanus* or, as we now call it, *Euscelis*, there certainly

seems to be a vast difference between it and *E. etrusus* and *E. reletivus*, even if considered as separate subgenera. These latter being short and stout insects, with elytra much shorter than abdomen, leathery and without appendix; on the other hand, it compares well with *E. striolus* Fall, which is about the same size and shape, and the elytra much longer than the abdomen, and with an appendix. This latter, together with a few other European species, were at one time placed in a genus erected by Sahlberg, called *Limotettix*; this genus was also recognized by some of our American workers, but is now considered a synonym of *Euscelis* and it is to this group that our leafhopper belongs. In *Eutettix* it does not fit very well as it lacks one of the main characters on which this genus is based, namely, "A more or less transverse depressed line behind the apex of vertex." This is very pronounced in *Eutettix lucida* Van Duzee type of the genus, but entirely absent in *Eutettix osborni* Ball.

It is unfortunate that the descriptions of both, the genera *Euscelis* Brullé and *Athysanus* Burmeister, are not easily accessible; I have not been able to consult either. It seems that this group of leafhoppers could stand a very thorough review, with the probable result that all our old tables and keys, both European and American, would prove to be faulty and not reliable in determining the species.

For the present it is therefore best to leave it as *Euscelis stactogalus* Fieber, in the subgenus *Athysanus*.

In the March number of the "Bulletin of the Entomological Soc. of France" (1920, pp. 82-83), Mr. E. de Bergevin has published a brief note on the subject. I may add that I have seen two specimens of this *Athysanus stactogalus*, taken at College Farm, New Jersey, July, 1915, by Mr. E. L. Dickerson; they had been named *Eutettix osborni* by Mr. E. P. Van Duzee. Mr. Dickerson does not think they came from *Tamarix*, as there are none of these plants on the farm. The specimens differ somewhat in color, being more yellowish-green and lacking the sprinkling of small, black dots, but my collection contains specimens which vary to this extent even when taken from the same plant at the same time. Specimens are at hand from Europe which lack these markings, and compare well with Mr. Dickerson's examples.